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OPENING LECTURE

TO THE

Medical Students of Queen's College.

BY

OCTAVIUS YATES, M.D.

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OPENING LECTURE

TO THE

MEDICAL STUDENTS OF QUEEN'S COLLEGE.

GENTLEMEN:—To those of you who have already completed a part of your curriculum in this or any other medical school, I need not particularly address myself; but to those who for the first time seek medical instruction within the walls of a University, a few words of advice and instruction may not be out of place, while I hope they will not be unprofitable to any. I am in a better position, perhaps, than any of my confreres to give advice. Having been, not very long ago, a student of medicine in this University, I may be supposed to know the wants as well as the weaknesses of students better than those, whose reminiscences of college life are less vivid. At the same time the position is the cause of not a little embarassment, for I find myself associated with those, my colleagues now, who but a few years ago were my teachers. The circumstance, however, is a source of no little satisfaction to myself, and should be to you, gentlemen, as inaugurating, in this Faculty at least, the rule which I hope may become permanent, of selecting from the graduates of the University persons to fill such chairs as may, from time to time, become vacant. There can be little doubt as to the propriety or policy of the rule; for, if from the list of her graduates no one can be selected, qualified to occupy the chair of a professor, the fact of itself must react to the injury of the University, as being a tacit confession of the deficiency of the course of instruction pursued within her walls.

With these introductory remarks, I will proceed to enquire of you who appear to-day as students, *For what have you come here?* Are you fully aware of the difficulties and dangers that are before you, and are you thoroughly imbued with that spirit of determined perseverance on the one hand, and that moral rectitude on the other, by which alone you can expect to pursue your studies satisfactorily, and then to become useful and honourable members of a useful and honourable profession and of society? You have all come here, I hope, to work; for whatever may be said of other professions, that of medicine cannot be picked up at one's leisure or obtained by imbibition. To work then—

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hearty and laborious work, you must apply yourselves. But remember, while pursuing your studies, and indeed at all times, that the human body is not a machine made up of inert matter, but that it possesses, in addition to its physical frame-work, a mind which, though unlike the body in composition and character, yet like it requires recreation and rest. That our intellectual faculties may be in that state best calculated for profitable study the body must be kept in health. For much mental exertion deranges the physical man, while a derangement of the physical functions renders the individual incapable of the highest and most profitable kind of mental labour. You should endeavour, then, to keep your bodies in a state of health by regularity in bodily exercise and diet, that your time may be employed to the best possible advantage. As the lectures in the different branches progress you will be taught the better how to do this, as well as more fully the great connection which exists between the mind and body.

With this view of the matter it will readily be seen why the examinations have been divided, into *Primary* and *Final*. The subjects are eight, taught by eight professors and a demonstrator of Anatomy; and it is believed that a greater proficiency can be attained by disposing of four of these at the end of the third year, when a more undivided attention can be given to the remaining four at the end of the fourth year; particularly when we remember that to master thoroughly these final branches, one must be perfectly conversant with the primary ones.

I said just now, that to preserve the body, and with it the mind, as a natural consequence, we must observe regularity in bodily exercise and in diet; I should have said regularity, and *temperance* in exercise and diet. *Temperance*, as the world understands the term, is most essential to the student. If a too free indulgence in the use of ardent spirits is practised, depend upon it, it will sooner or later unfit the mind for that degree of culture necessary to success in a liberal profession, at the same time that it saps the body of that physical stamina upon which both physical and mental health depends. My firm conviction is that while an intemperate use of strong drink is injurious to all, even a *temperate use of it* is worse than useless to the student. It is a stimulant, which, under certain circumstances and in certain diseases, may be useful, but when the student requires it to enable him to get through with his allotted work, it is high time that he quit his studies altogether.

The world is full of instances in which even young men have destroyed bright prospects upon the great stumbling-block, Intemperance. I dare say, gentlemen, that there is not one among you who cannot call to mind an instance of this kind.

I could point to many professional men, who but a few years ago were what the world calls talented young men, but who are now either sleeping in untimely graves, forgotten, except perhaps by a mourning mother, or sister, or wife, or walking the earth, wrecks in mind and body, the shame of their relatives and friends. They may, however, accomplish some good by their example, for they stand as signal-posts along the great highway, to warn us all of the pit into which they have fallen!

But the medical practitioner, of all others, should abstain from a too free use of ardent spirits, for there is hardly a calling in which the mental and physical faculties require to be so constantly in readiness. If the mariner, in the neighbourhood of a rocky shore, requires to keep a sharp look-out, with which a too free use of ardent spirits is sure to interfere, so should the medical man, whose services are liable to be required at any moment, day or night, in cases of life and death. The lawyer can shut his office at three or four in the afternoon and snap his fingers at business until next day; the merchant can put away his ledger, and never dream of being called out at night to minister to the crying necessity of a suffering fellow mortal; and the mechanic, when his daily task is done, can retire to the undisturbed rest which is to fit him for the duties of the coming day. If these indulge in an extra glass at night it has no immediate effect upon you or me, though, if continued, the habit will quite likely have a melancholy effect upon themselves, their families, and society. But the medical man is expected to be ready at every moment, "in season and out of season," by day and by night, "in fair weather and in foul," to go out at the call of his patient; and he should be so ready that he may perform the responsible duty, in such cases devolving upon him, as becomes one into whose keeping the life of another is placed. But perhaps he, who is thus at work, in all hours and in all weathers requires stimulants to "keep him up." None but those wedded to the habit of too free indulgence will urge such excuse, at least so I think, and I am not alone in my opinion. Dr. Carpenter, one of many authorities, in his "Treatise on Human Physiology," (a work recommended to you for reference in that branch), sums up the effect of alcoholic drinks in the following words:—

"Extended experience has shown that, notwithstanding the temporary augmentation of power which may result from the occasional use of ardent spirits or fermented liquors, the capacity for prolonged endurance of mental or bodily labour and for resisting the extremes of heat and cold as well as other depressing agencies, is diminished rather than increased by their habitual employment. On these grounds the author has felt himself fully justified in the conclusion, that for physiological reasons alone, habitual abstinence from alcholic liquors is the best rule that can be laid down for the great majority of healthy individuals."

I have dwelt upon the effects of intemperance, principally physiological but in some respect moral, because I am satisfied that the practice of temperance should be commenced, as far as the medical man is concerned, during student life. If this is not done, habits may be formed which it were next to impossible to overcome, and which might blast the prospects of a future graduate utterly and for ever. I am firmly convinced that you will never feel occasion for regret if you adopt and follow it strictly without exception.

But you will require to observe also a systematic arrangement of your studies. Success, to a far greater extent than is generally imagined, depends upon this. If you imperfectly master one subject and leave it for another, to drop it in turn for a third, you will never get on satisfactorily; but if you have a certain allotted portion of your work set down for a certain hour, you will soon find that you can keep up with your lectures easily and profitably.

I will now indicate to you what you are to study. I repeat the question; "For what have you come here to-day?" One might reply "I have come to study *the Science of Medicine*;" another, "I have come to learn *the Healing Art*." Both of you would be wrong; neither would become a good and scientific practitioner. If you analyze the subject correctly you will readily agree with what I have just said. The terms are far from being synonymous, but they cannot well be separated. Empirics and quacks, upon whose illiterate and conceited minds the thought even of the science of medicine never dawned, acquire a certain kind and amount of the art of healing. Take, as an illustration, the science of chemistry. It has evidently arisen out of the art of the alchymist, but every new discovery in the science of chemistry can by no means be regarded as an advance in alchymy. The chemist is able to explain upon truly scientific principles every step in his art. The alchymist only learns by experiment that certain results follow certain operations; he could not explain the mode of operation as the chemist can do, for the science of his art had no existence. The wide difference between the art and science of music may be referred to as another illustration. The art of music, like all other arts, can only be learned by practice. Practiced long centuries ago, perhaps by rude and unlettered peasants, the art gave birth to the science, starting necessarily from some superior mind moved to it by the practice of the art. As the art of the chemist can only be learned by practice, whilst the science can only be acquired by reasoning upon chemical philosophy and by studying the principles of the practice, so the art of music can be learned only by practice whilst the science must be obtained by a study of the principles.

If, then, we would never imagine that a man could be a good musician or chemist without understanding thoroughly the science, of how much greater moment should we hold it to be, that, in a profession which has to do, not with musical instruments and the production of harmonious sounds, or the handling of test tubes and retorts and the production of beautiful colours and wonderful compounds, but with the moving and breathing body of man, "fearfully and wonderfully made," we should take care that we are well grounded in the science of the art we profess to practice; and not, like the empiric, grope our way in the dark, regardless of consequences, if reputation or the pocket is not made to suffer. We should be careful about it, not merely because our reputation and with it our pocket will sooner or latter suffer by a neglect or deficiency in this particular, but above all, because the responsibilities we assume as practitioners of medicine are tremendous! Let us suppose a case. A man, for a long time on unfriendly terms with his neighbour, at last in an unlucky moment gives a death blow. The murderer is arrested, tried, found guilty, hanged. Another, in a social point of view perhaps worth a thousand of the murdered man, falls sick; we are sent for to attend him, and through our ignorance or blundering he does not recover. Society mourns his loss, the widow and orphans cannot be comforted; but an indulgent public says "poor man, art could not save him." What, do we say within ourselves? We have saved our reputation with the public, we even get our money to the last farthing; but in our consciences there remains a sting which even the "wasting tooth of time" shall not remove. We cannot quiet our uneasy consciences by

the thought that we did the best we could; his blood is upon our ignorant heads. "Ignorance in the medical practitioner is as the sin of blood-guiltiness." The difference in these two cases does not need to be pointed out. Strive then, gentlemen, in preparing yourselves for the practice of the medical profession, so to combine the art with the science, that when you find yourselves unable to save your patient, you can, at least, feel the happy consciousness that it was not through your ignorance that he died.

But there are cases that even the best educated and most experienced medical men do not understand; new diseases and unaccountable features aud developments of disease never seen or heard of before. The only sound hope for such cases is in a thorough application of scientific medicine. And if the science fail, if the treatment founded upon general principles fail, and the patient die, we must seek for an examination of the pathological condition of the parts thought to be involved. By this means art is established, and a science at fault corrected. And this leads me, for a moment, to consider the importance of autopsic examinations. A great obstacle to this is the unreasonable squeamishness of friends who entirely lose sight of the fact, that, while the dead suffer not, the living reap the benefit.

To *post mortem* examinations the medical practitioner, more than the student, owes a deeper insight into the pathology of disease than is generally supposed. The late lamented President of this Faculty has often assured me, that when a young man, he would willingly have walked twenty miles to be present at one; and he has often expressed astonishment at those students, and practitioners as well, who make boast of their indifference to this part of a sound medical education. In his peculiar style he characterized such men as "conceited fools, too ignorant to know that they can learn anything more." And I may mention that the same venerable physician and surgeon, who for years was looked up to, and justly, as the "leading practitioner" in this part of the province, to the day of his death, seemed to take pleasure in bearing evidence to the value of *post mortem* examinations, when properly made.

But, in our appreciation of the science of medicine, we must remember that its birth, like the birth of other sciences, has not been instantaneous. It has been a gradual and laborious production. Dating back many centuries ago, it has been drawing yearly nearer and nearer to perfection. Other sciences have been no mean auxiliaries to its advancement. To chemistry it owes much, for not only by its aid are we enabled to determine the character, and detect the existence even, of certain diseases, but also it supplies remedial agents, without which the *materia medica* would be but inefficient and barren. And while in our study of the science of medicine we devote our attention to its important branch, chemistry, we should ever keep in mind the names and memories of Cavendish, and Priestly, of Davy and Boyle, with whom its new era began. It has been justly remarked that the discovery of *oxygen* was the starting point for other great discoveries, and that its importance cannot be too highly estimated. Before then, the composition of the air we breathe, of the water we drink, and of the solid crust of the earth we inhabit, and their influence upon animal and vegetable life, were not correctly known.

From the discovery of oxygen, arts and manufactures, and the profitable and successful separation of metals from their ores, take their date. Both have made wonderful strides since basing their success upon that discovery, and it is no exaggeration to assert, that the wealth of nations and empires has thereby been increased a hundred-fold. Every new discovery in chemistry produces its fruits for the prosperity and comfort of man. In your study of this science you may be led to speak with irreverence of chemical equivalents and reactions and of compound radicals; yet, when you see the delicious flavouring of the pine-apple and jargonelle-pear produced from old, decayed cheese, and the beautiful colours in the shop of the milliner from crude coal-oil; or, on the other hand, when you see the one-hundredth part of a grain of arsenic or strychnine detected with unerring certainty in the stomach or tissues of a dog, you will forget your annoyance in admiration of the results.

I might refer to the science of electricity as to a certain extent helping to a solution of the phenomena presented by the nervous system, and to the relief, if not the cure, of certain diseases. And while we investigate the bearings and benefit that this science and its kindred one, magnetism, have upon the treatment of disease, we should bear in grateful remembrance the names of those from whom mainly a correct knowledge of them has been obtained—Otto de Guericke and Wall, who by their researches made the first step in their induction, De Romas in France and Franklin in America, who first satisfactorily established the fact that the electric spark, resulting from friction upon amber, is identically the same as that which they drew from the storm-cloud by means of their kites. We should emulate their exam-

ple; and who knows but some of you, gentlemen, may, like Franklin, render your names immortal, if, by patient and careful study, you hit upon a discovery as important to science and as brilliant as his!

But it is not in medicine or in the treatment of disease that we see to the greatest advantage the fruits of this discovery. By the knowledge derived from it, man has dared to deal with the lightnings of heaven and to say that here, if they fall, they shall fall harmless. By its aid also, the peaceful pursuits of commerce, the sweet interchange of friendship and the terrible casualties of war are, in a wonderful degree, influenced. Look at that line of out-drawn wire; along its single thread are conveyed with lightning-speed words of weal or woe, of profit or loss, from man to man, thousands of miles.

Take into consideration now the study of the science of Therapeutics and what do we find? The Therapeutics of our day is not the blind, unscientific thing that it was even a century ago. Now we understand the nature and pathology of disease and are able to combat it the better with our remedies for we know their action, and in many cases can tell beforehand their almost certain effect.

By the study of Physiology you will not only know more of the elements forming the body and comprising our food, but you will become, to a certain extent, familiar with those more intricate and wonderful operations by which the important functions of Respiration, Digestion, and Reproduction are carried on. You may also know more of the constitution of brain and nerve matter and their connections, and will therefore, be the better able to understand those investigations and phenomena of a psychological character to which the learned professor of Forensic Medicine will call your attention. And I feel that I cannot too strongly impress upon your minds the importance of a close attention to this branch of your studies, particularly as the facilities are unusually great. If there is any one malady "to which flesh is heir" demanding our most earnest attention and sympathy, it is that in which the mind swings from its moorings and, like a rudderless ship, drifts about upon the sea of a troubled world.

In your career as medical practitioners you may sometimes be called upon to determine whether a criminal—probably a murderer—standing at the bar of justice, is responsible for his acts; and therefore you should so understand all the subjects taught from the chair of Forensic Medicine, that your professional opinion may not, on the one hand, screen the guilty from a just punishment, or, on the other hand, consign the irresponsible maniac to a murderer's doom. Other cases will arise in which your certificate will send to the mad-house, or restore to society. In either case, the confidence reposed in your professional knowledge would be grievously misplaced, were you rashly to venture an opinion without a clear understanding of those psychological phenomena resulting from mental disease, which take every varying form, from the babling of the idiot to the raving of the murderous maniac. Your culpability would then be only equalled by your presumption.

I will presuppose that you are well grounded in the science of medicine, or at all events that you are laying well the ground-work of the science. You understand perfectly the anatomy of the human body; if shown two drugs you can give the name, can describe the manner of preparation and mode of action of each, and if asked the diagnostic marks of difference between two diseases or tumours named to you, you can give them readily and correctly; but if you are taken to the bed-side of a patient and are there asked the question, What is the matter? you find that you have been cast beyond your depth and are utterly at a loss to give a reasonable answer. You have, in other words learned the *science of medicine* but you have yet to acquire the *art of healing*. Be anxious and diligent, then, to perfect yourselves under the instruction of those who have already learned and who are appointed to teach you, this important branch of your education.

Fortunately, for that express purpose, we have the Kingston Hospital, connected by act of Parliament with this University, where you will have an opportunity of seeing a great variety of diseases and injuries, and of following the treatment adopted in each case. But there is a right and a wrong way of following Hospital practice. I have seen students, at much personal inconvenience, attend Hospital to witness an amputation. A few cuts of the knife, a few strokes of the saw, and the leg lies under the table, when they erroneously imagine that the operation is completed and so go away. They look upon the ligation of the arteries, the closing of the wound, and the after treatment as of no use or importance to them. But in this they are vastly mistaken. Oftentimes upon these small matters, as they are thought to be, the success of the operation and the life of the patient depend. Take a different case; an acute disease. The student seems particularly interested, and listens attentively to the clinical instructions given. He notes the

attending physician's diagnosis of the disease, the reasons for its formation, and the remedies ordered; and he foolishly imagines that he has learned all that there is to be learned about the treatment. Pleasure, or indolence, or ignorance prevents his return to watch for the result and to note the effect of the remedies applied. I hope you will eagerly embrace every opportunity, not only to be present at the examination of medical and surgical cases, but to follow attentively the treatment to the end, whatever it may be. Do not forget that thoughtful *observation* is a means to an end and that the end is *experience*, which is nothing more than an accumulation of many observations on the same subject, and it is by the massing of observations of success and failure, guided by a sound knowledge of the general principles of medicine, that we come to know how to practice this art of healing.

Finally, gentlemen, all our labour and study but conduct to this, the discovery of truth, and the application of it to the relief of human suffering. Both the science and the art of medicine are necessary to this end. Let me beg of you to bend every nerve to master the truth, and being masters of it you will be prepared to ward off the death, or shorten the career of disease, or assuage physical anguish, or (when art and science and all that we can do avail no more) to smooth the passage to the grave, and thereby confer as great a blessing upon your fellow, as mortal is capable of conferring.

You are all of you probably aware, that when you entered upon the study of medicine, you joined what some people look upon as an anomalous class of society; for there are those, even in this community, who regard the medical student as a lawless and godless person. To the student I need not say that such an opinion is both grievously untrue and grossly libellous, while to others I need only point out the high and elevated mission of the medical man, to convince them that reckless and lawless conduct in the student is inconsistent with the benevolence and correct conduct of the practitioner, and to remind them that the student is only preparing himself for weighty responsibilities. This opinion has probably been formed through an erroneous idea of the nature of the studies. Many people have the idea, too, that certain branches of medical education are calculated to beget feelings of irreverence and irreligion; but this idea also is totally erroneous. Instead of destroying natural sensibilities, or deadening the sentiments of religion which every one in a Christian community should entertain, the study of anatomy is rather calculated to increase the feelings of reverence for the Creator and to teach the student of it to look "from Nature up to Nature's God," the Author and Finisher of all. To say that an acquaintance with the many blood-vessels of the body along which coursed, in the full tide of health, the rich blood moved by the finger of God, or with the origin and distribution of those thread-like nerve fibres along which once flashed, "swifter than a weaver's shuttle," the will to speak—to say that these beget in the mind of any one a disregard or irreverence for Him, who created and adapted them for the performance of their marvellous functions, is to publish a libel upon the common sense, to say nothing of the religious sentiment, of a rational and intelligent creature. On the contrary, the evidence that the anatomist and physiologist finds forced upon his reason by an investigation and study of these sciences, wherein he sees the wisdom of adaptation, should be enough to convince, even an infidel, by "confirmation strong as holy writ," of the existence of a Great First Cause and the directing and sustaining power of an omnipotent hand.

Let me urge you, then, knowing that certain people ignorantly entertain these erroneous ideas of your character, to show the world that you are no reckless law-breakers, no disrespecters of sacred feelings or sacred things, but that you are fully alive to the plain duties and responsibilities involved in the profession of your choice.

And now let me conclude by offering a few words of calm though bright encouragement. The duties of the medical profession, not only in the studies required for its attainment, but in its practice, call upon you now, and will call upon you always, to spare no toil, to shrink from no sacrifice of ease and enjoyment, that you may acquit yourselves as men and as Christians in the great battle of life. If you do this, you will in the end have the proud conciousness that you have been the instruments, in the hands of Providence, of relieving human suffering and anguish. You will receive honour and wealth at the hands of your fellow men and the commendation of your own consciences and of your God. Be diligent, and honest and manly then, in your studies to acquire fitness for your profession,—a profession, the mission of which is so honourable, and so exalted, and so eminently worthy of the most ardent aspirations of the best and wisest of earth, short of those which we know to be for that which is immortal.